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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,618

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Raymond C. Kurzweil

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EXAMINER

BEHNCKE, CHRISTINE M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/734,618	Applicant(s) KURZWEIL, RAYMOND C.	
	Examiner Christine M. Behncke	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the Amendment and Remarks filed 13 April 2007, in which claims 1-26 were presented for the examination.

Response to Arguments

Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 7 is objected to because of the following informalities: the claim recites "the second physical location". However the only sounds claimed are coming in from the network, the sounds from a first location. It is not very clear whether the signal is to be coming from the location of the operator (location of the goggles) or of the robot. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7, 13-20, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biocca et al., US 2002/0080094, in view of Yee, US 6,016,385.

(**Claims 1, 3-7, 14, 15, 17-20, 25**) Biocca discloses a teleportal system to provide remote communication between two users, wherein in at a first location there is a camera capturing an image of a first physical location in which the camera is disposed ([0033]), and producing a first video image signal from the first captured image ([0033], [0038]); a processor that receives the first video image signal and morphs the first video

image signal ([0037]-[0038]); an adapter to send the morphed first video image signal to a communications network (element 99) and receive a second video image signal from the communications network, the second video image signal of a second physical location (figure 1, [0035]); and a set of goggles to display the second video image of the second, different physical location (figure 9). Biocca does not disclose wherein the cameras are coupled to a mannequin. However, Yee teaches a robot system wherein an operator controls the robot and receives sensory information from the robot, including a camera coupled to the robot for receiving a video image (Figure 3, cameras 22), the camera sending the video image to a communication network (Figure 1), a processor for morphing the video image (column 5, lines 11-40), and the user having a set of goggles to display a morphed video image to the user (column 5, lines 11-37). Yee further teaches the robot having tactile sensors positioned along the exterior of the robot (figure 6, column 6, lines 15-31), the sensors sending first tactile signals to the communications network (column 6, lines 15-31); the system further including a body suit having tactile actuators, the tactile actuators receiving second tactile signal from the communications network (column 8, lines 10-29). Yee further teaches motion sensors positioned throughout the body suit, the motion sensors sending first motion signals corresponding to movements of each sensor relative to a reference point (column 6, lines 47-58), the first motion signals transmitted to the communications network (column 3, lines 21-25); and a robot receiving from the communications network the motion signals from the motion sensors, the second motion signals from the motion sensors causing a movement of the robot that is correlated to the movement of the body suit

(column 3, lines 21-25, column 6, lines 31-46); wherein the robot includes motion actuators corresponding to the motion sensors, the motion actuators causing the robot to move (column 3, lines 21-25, column 7, lines 15-48). Yee further teaches wherein the robot comprises a body (figure 3) and a microphone coupled to the body, the microphone for sending audio signals, corresponding to sounds in the first physical location to the communications network (column 4, line 51-column 5, line 10); wherein the set of goggles further includes a transducer to render audio signals received from the communications network from sounds in the first physical location (column 4, line 51-column 5, line 10). Yee further teaches wherein the robot comprises a transmitter to wirelessly send the audio signals, the tactile signals, the motion signals and the video images to the communications network (antenna 30, figure 3).

Yee suggests the use of a humanoid robot would be beneficial because the robot can capture the environment of the robot location "exactly the same way that a human would sense the conditions, sends signals to the operator which the operator senses in exactly the same way as if he were to take the place of the robot" (column 1, lines 20-27). Further Biocca teaches that virtual environments and teleconferencing links support collaborative interaction between individuals in local and remote sites ([0006], [0010]).

(Claims 2 and 16) Biocca further discloses wherein the processor overlays a virtual environment over one or more portions of the video image to form a virtual scene (figures 1 and 12B, 12C).

(Claims 13, 24, and 26) Biocca further disclose wherein the set of goggles comprises a receiver to receive the morphed video image ([0042]).

Claim Rejections - 35 USC § 103

Claims 8-10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biocca et al. in view of Yee as applied to claims 7 and 20 above, and further in view of Abbasi, US 6,786,863.

(Claims 8 and 21) Biocca et al. in view of Yee discloses a humanoid robot in a first location with a microphone and a camera; a set of goggles to receive the video image signal from the camera and an earphone to receive the audio signals from the microphone (figures 2 and 3). Biocca describes the teleportal system wherein the interaction between remote locations includes a first and second teleportal site, a first and second set of cameras, microphones, and goggles at different teleportal locations ([0031]). Biocca in view of Yee do not describe a second robot at a different location. However, Abbasi teaches a remote physical encounter system and method comprising a second mechanical surrogate with external sensory devices including a second camera and a second microphone and sending the signals to a communications network (figure 1).

(Claim 9) Abbasi further teaches wherein the communications network comprises a first communication gateway in the first location (element 15); and a second communication gateway in the second location, the second processor connected to the first processor via a network (element 25, network 30, figure 1).

(Claim 10) Abbasi further teaches wherein the communications network comprises an interface having one or more channels for receiving the audio signals from the microphone and receiving the video signals from the camera (Figure 1); and

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Choy et al. discloses sending audio and visual signals to the headset of the user (Figure 1 and column 3, line 10-column 4, line 55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Biocca et al. in view of Yee with the teachings of Abbasi because all the applied references teach the importance/effectiveness of making a virtual/remote encounter as life-like as possible. Yee explicitly teaches that for the interaction to be the most beneficial the robot should capture the environment of the robot location "exactly the same way that a human would sense the conditions, sends signals to the operator which the operator senses in exactly the same way as if he were to take the place of the robot" (column 1, lines 20-27).

Claim Rejections - 35 USC § 103

Claims 11, 12, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biocca et al. in view of Yee as applied to claims 1 and 20 above, and further in view of Simmons, US 2003/0030397.

Biocca et al. in view of Yee discloses a humanoid robot in a first location with a microphone and a camera; a set of goggles to receive the video image signal from the camera and an earphone to receive the audio signals from the microphone (figures 2 and 3). Biocca in view of Yee does not teach explicitly where the cameras are placed in the eye socket and the microphones are placed in the ear canal. However, Simmons teaches a system of controlling a robot remotely, wherein the robot is a humanoid robot (figure 5); the robot includes an eye socket and the camera is positioned in the eye socket ([0026]); and the robot includes an ear canal wherein the microphone is

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positioned in the ear canal ([0016]). It would have been obvious to one of ordinary skill in the art to combine the inventions of Biocca in view of Yee with the teachings of Simmons because as Simmons teaches, placing the sensors in the position corresponding to the human sensors aligns the sensors to the perspective of the use and better reflexes the environment to the perspective of the user ([0026]).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

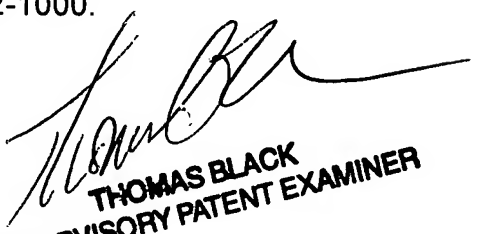
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on 8:30 am- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB



THOMAS BLACK
SUPERVISORY PATENT EXAMINER